

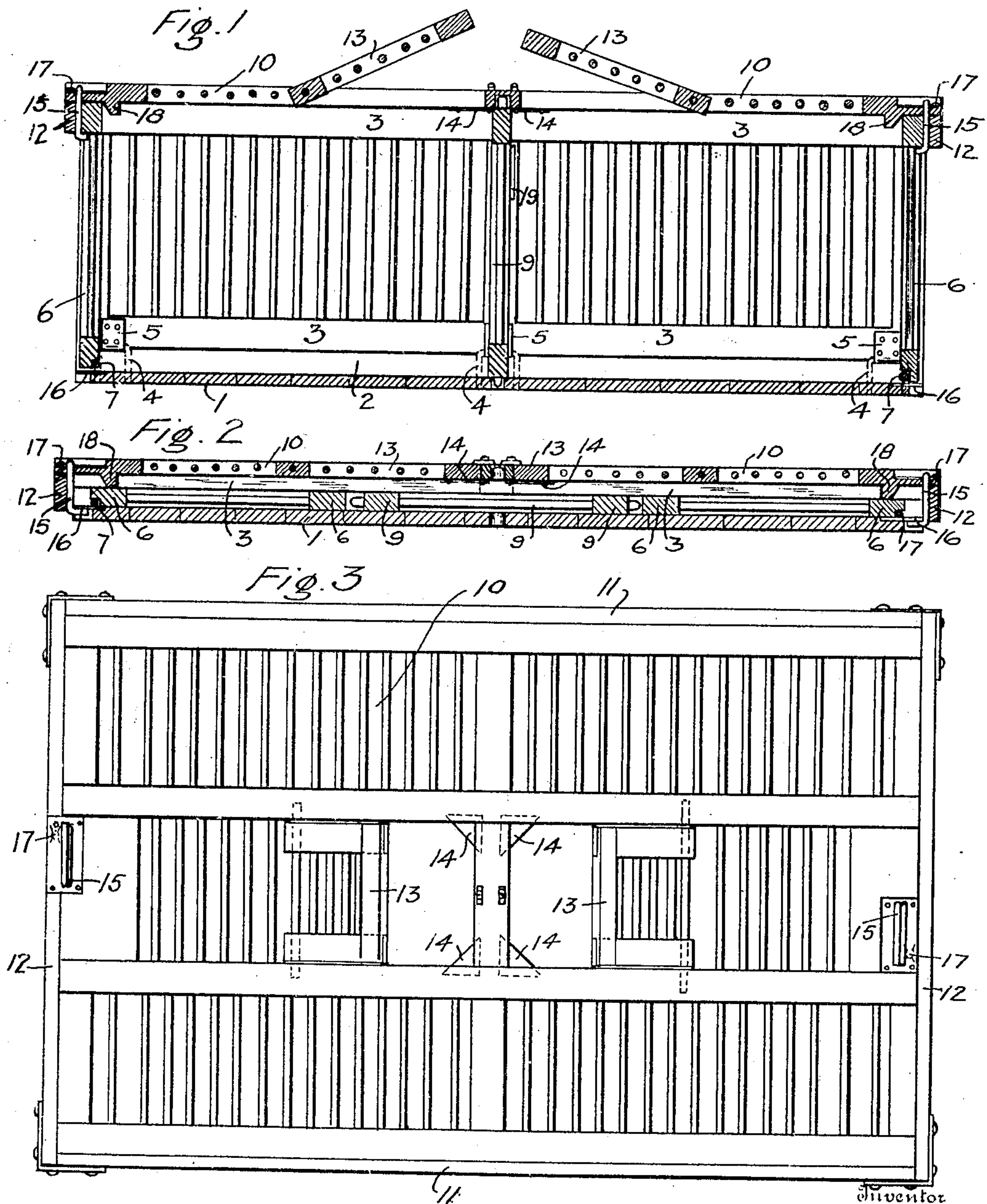
No. 875,780.

PATENTED JAN. 7, 1908.

A. W. COATS.
FOLDING CRATE.

APPLICATION FILED NOV. 10, 1905. RENEWED DEC. 3, 1907.

2 SHEETS—SHEET 1.



Witnesses
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E. Q. Brownell

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2 SHEETS—SHEET 2.

Fig. 4.

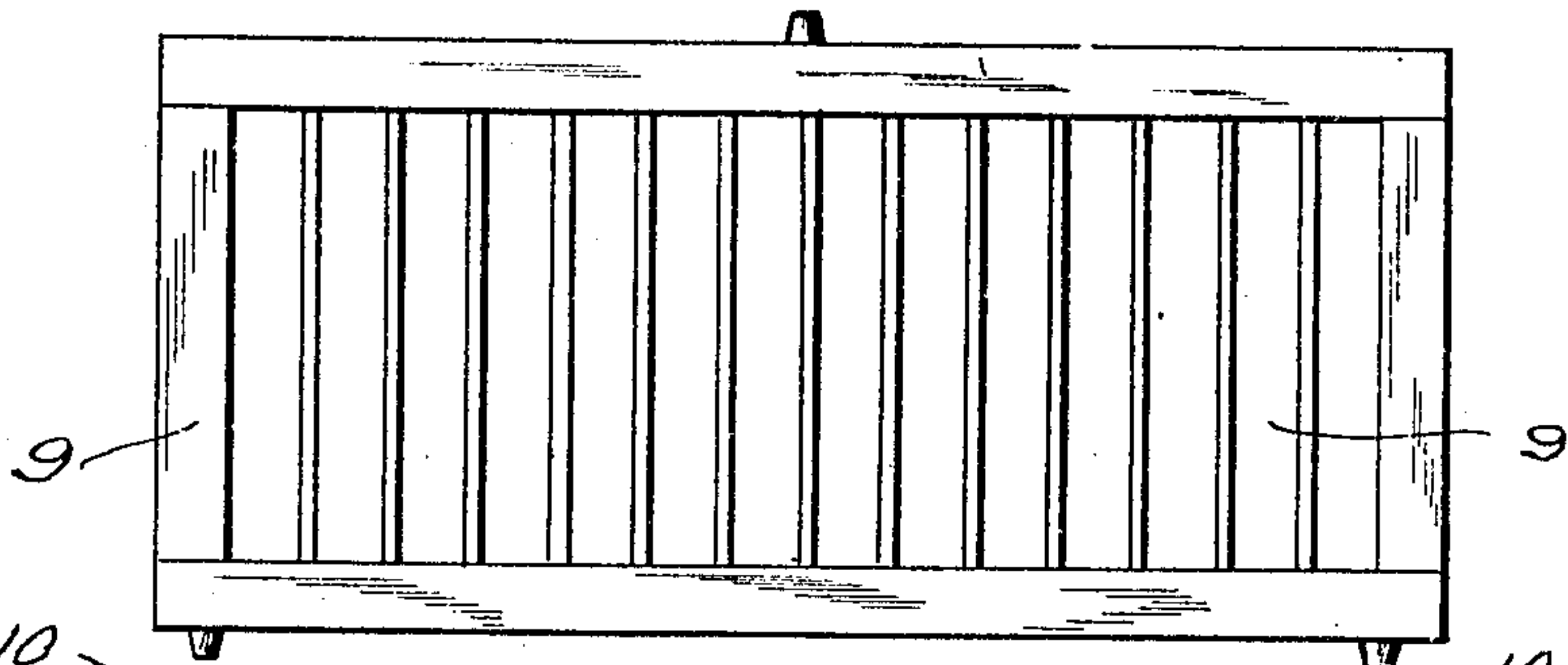


Fig. 5.

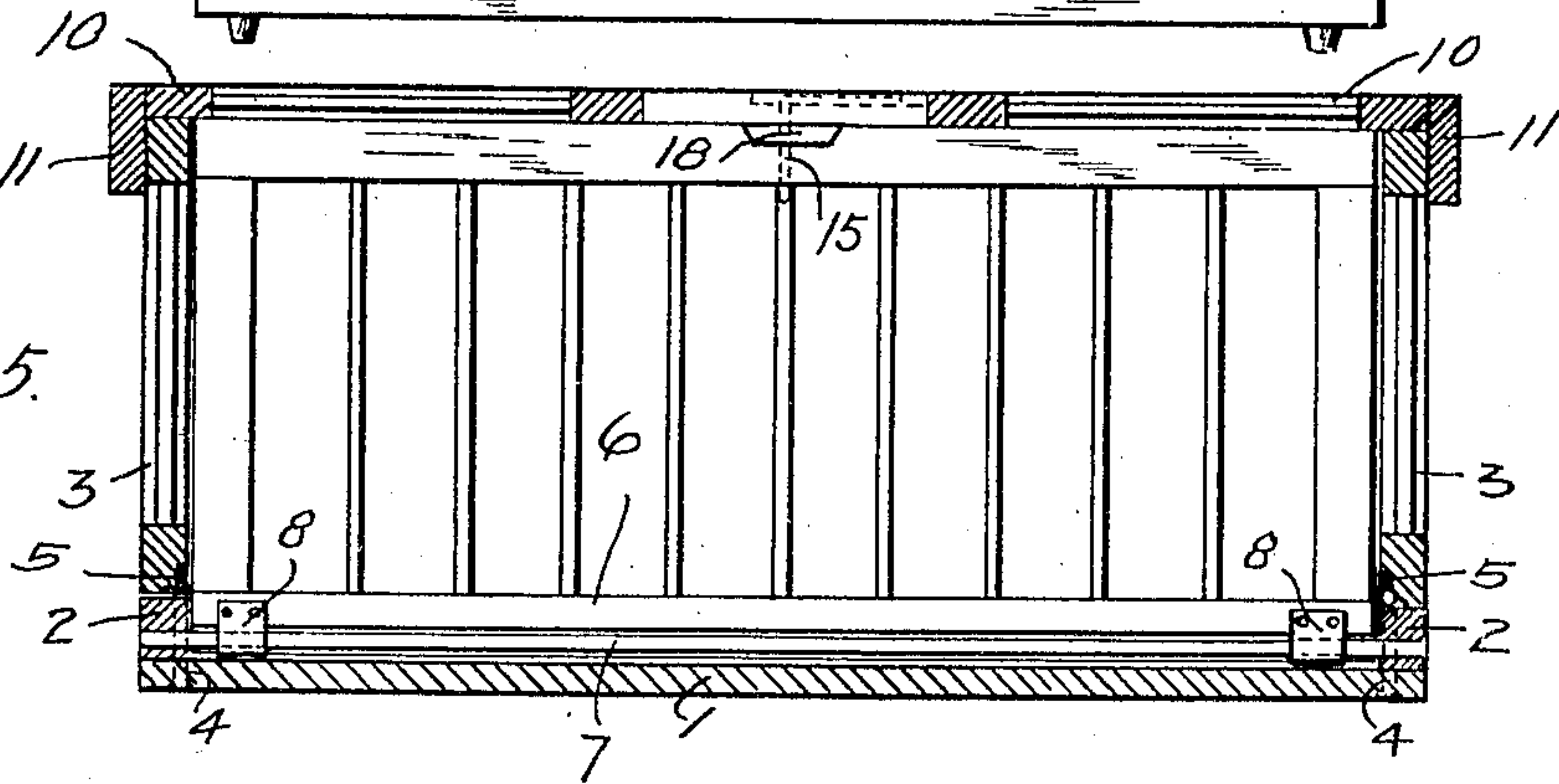


Fig. 6.

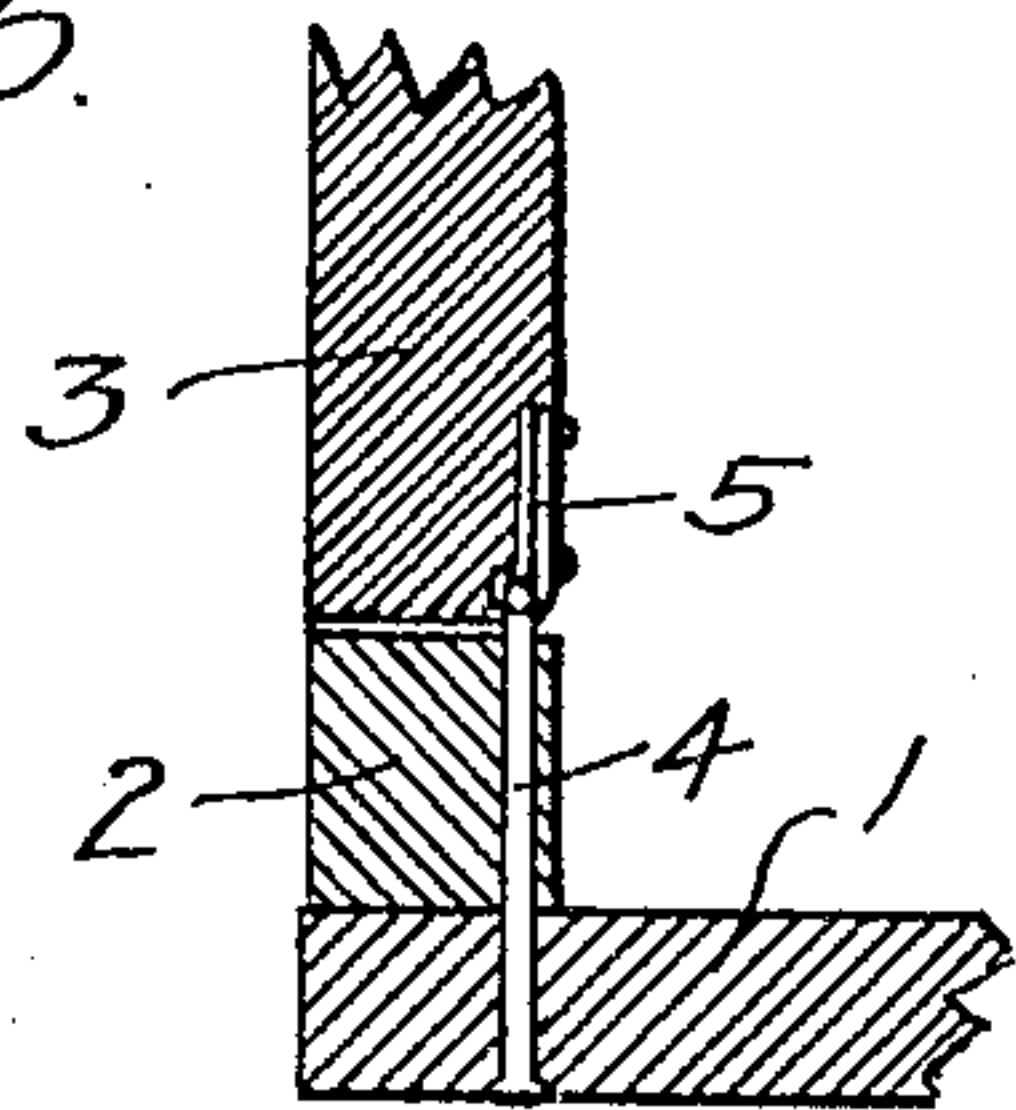


Fig. 7.

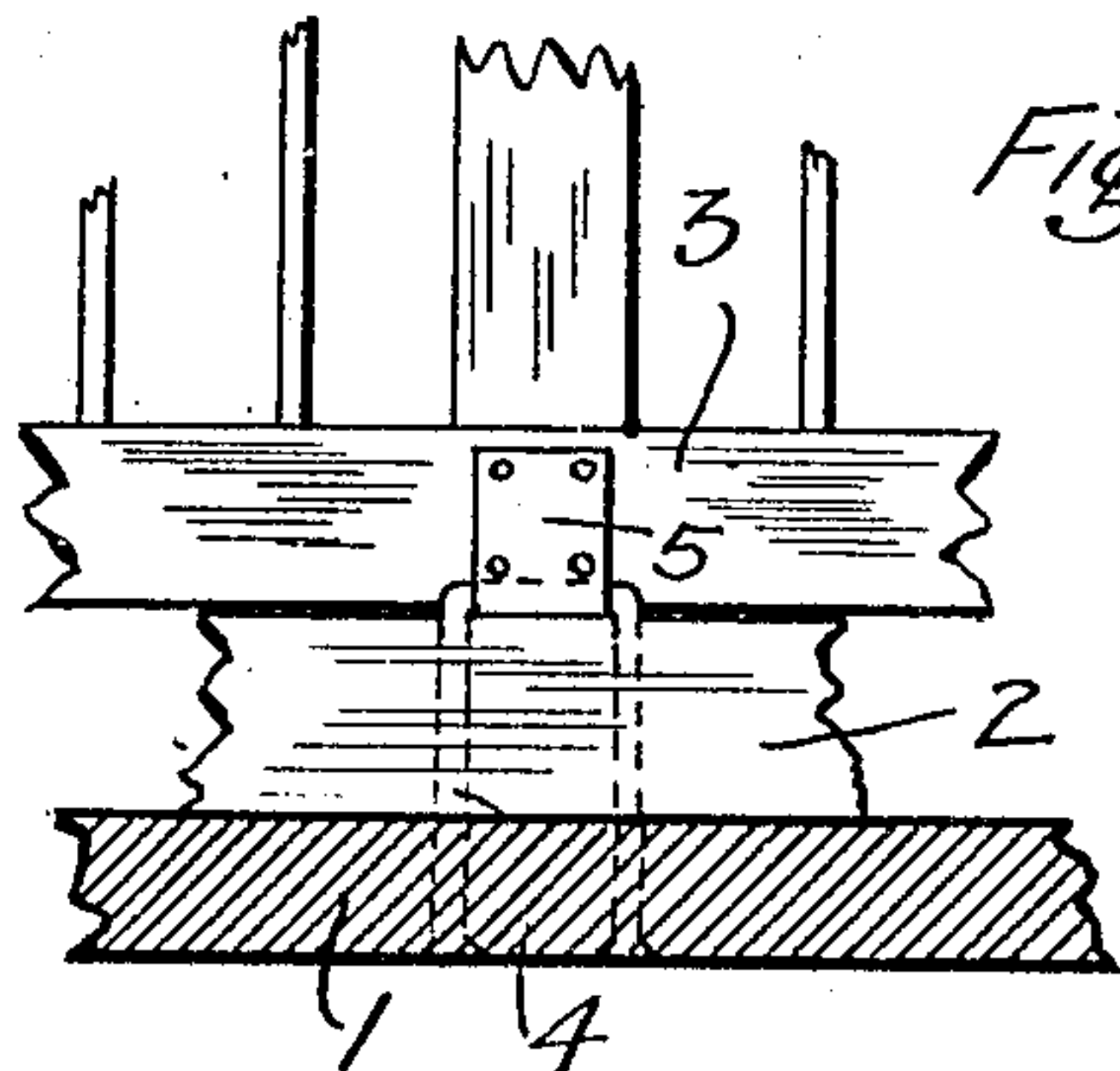


Fig. 8.

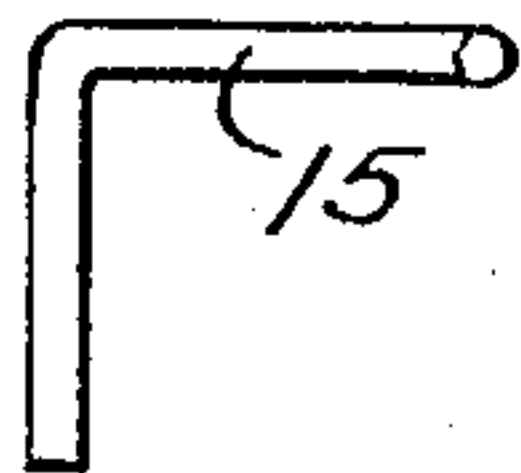
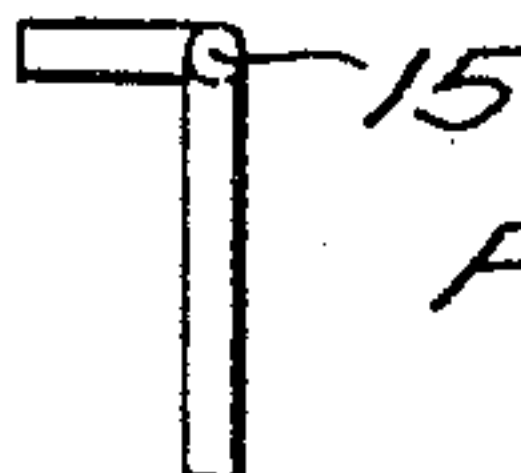


Fig. 9.



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UNITED STATES PATENT OFFICE.

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FOLDING CRATE.

No. 875,780.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed November 10, 1905, Serial No. 286,716. Renewed December 3, 1907. Serial No. 404,964.

To all whom it may concern:

Be it known that I, ARTHUR W. COATS, citizen of the United States of America, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Folding Crates, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to folding crates and particularly to crates adapted to the exhibition and shipping of poultry, the storage in cold storage warehouses and the shipping of dead poultry, and the shipping of miscellaneous articles.

My crate is constructed in such a manner that it is exceedingly strong when in its opened position, its parts being securely locked together and arranged so that the strains are distributed in the most economical manner, and so that when it is folded it occupies but little space and is locked together so that there are no loose parts to be lost and has no protruding pieces which would be injured by any freight or merchandise piled thereon.

My invention is illustrated in the accompanying drawings, in which,

Figure 1 is a longitudinal vertical section of my crate in its unfolded position. Fig. 2 is a similar view of it in its folded position. Fig. 3 is a plan. Fig. 4 is an elevation of the middle partition. Fig. 5 is a vertical cross section of the crate in its unfolded position. Fig. 6 is an enlarged section showing the method of hinging the sides of the crate. Fig. 7 is an elevation thereof, and Figs. 8 and 9 are two views of the locking latch.

Similar numerals of reference refer to similar parts throughout the several views.

The bottom "1" of my crate is formed of suitable boards nailed tightly together to the two side bars "2" which run the entire length of the crate on each edge thereof. Above the side bars "2" are hinged the sides "3" of the crate in such a manner that the turning point of the side is at its lower interior edge and so that its lower side is pressed against the upper side of the side bar "2." This hinge is illustrated in detail in Figs. 6 and 7 and consists preferably of the U-bolt "4" passing through the bar "2" to the bottom "1" and being suitably bent or riveted at the bottom to prevent its being pulled out therefrom, and a strap "5" which is bent around the horizontal portion of the bolt "4"

and is securely fastened to the side "3" of the crate. By fastening the side "3" in this manner, I lock the side to the bottom through the U-bolt "4" and prevent the side from turning outward at all, since its outer lower edge engages the side bar "2," but at the same time the side is left entirely free, so far as the hinge is concerned, to turn inwards and is elevated from the bottom by the side bars "2" a distance sufficient to allow the ends of the crate to be folded thereunder, as hereinafter described. The sides "3" are kept from turning inward on the hinges by the ends of the crate and by the middle partition.

The ends "6" of the crate are secured in place and are hinged by means of the rods "7" which pass across the ends of the crate close to the floor thereof by means of suitable straps "8", which are secured to the ends and which engage around the rods "7". In order to make the ends "6" fold down close to the bottom the lower edges thereof are grooved on their inner sides to receive the rods "7". It is evident that these ends "6" can, therefore, only turn inwards and are braced from turning outward by the bottom of the crate. As above mentioned, the ends "6" fit closely between the sides "3" and prevent their turning inward when the crate is in its unfolded position. The inner partition "9" is of the same dimensions as the ends "6", but consists simply of an ordinary partition with dowels in its upper and lower edges which are adapted to enter suitable holes in the bottom "1" and in the cross piece of the top, as hereinafter described. This middle partition also fits between the sides and further braces them from inward movement.

The top "10" of my crate consists of two side bars "11" running the full length of the crate and fitting outside of the sides "3" thereof, to which are fastened the end bars "12" by any suitable strap or other means, the said bars "12" being outside of the ends "6" of the crate. The frame thus formed of the bars "11" and "12" is further braced by suitable longitudinal and cross pieces, as occasion may require. In ordinary use I form gates "13" on each side of the center cross brace under which is placed, as before mentioned, the central partition "9" and into a hole in which the upper dowel of the partition enters, thus providing a gate for

each compartment, formed by the central partition. The gates "13" open upward and outward; being prevented from inward motion by means of suitable corner plates "14" which engage the corners of the gates. The gates may be secured in their closed position by any suitable latch.

The locking device, by means of which the crate is locked either in its closed or opened positions, consists of two bent wire latches "15", one at each end of the crate, which consist of a vertical central shank and upper horizontal operating handle or lever and a lower longitudinal locking arm, the two end horizontal portions being set at right angles to each other so that when the handle portion is parallel with the end of the crate the locking arm is at right angles thereto or parallel to the sides thereof. The shank portion passes through the top just inside of the end bars "12" thereof and extends downward a sufficient distance so that the locking arm passes under the upper bar of the ends "5" when in its unfolded position, or under a plate "16" let into the bottom of the crate over a suitable slot therein when it is in its folded position. The operating handle is kept in the locking position by means of a knob or elevation or slight obstruction "17" placed outside of it near its end, the said obstruction being formed in any of the well-known ways and being adapted to simply keep the handle from passing freely over it, but allowing it to be forced over it when it is desired to unlock the cover.

The ends "6", above described, are kept from swinging inward when in their open position by means of lugs "18" secured to the lower side of the top "10" near the center of the ends thereof. The central partition "9" is brought to its proper position by pushing it against the cleats "19" secured to the sides "3" of the crate, in which position the upper dowel thereof will be in its correct position to enter the hole in the top "10" when it is placed thereover.

It will readily be seen that when my crate is unfolded it is braced from every direction and is very stiff. And that further all the hinges pass directly to the bottom and, therefore, relieve the side bars from excessive twisting strain. In order to fold my crate, the top "10" is removed, after turning the locks, and the ends "6" are turned downward on the hinge bars "7" so as to lie flat against the bottom; then the central partition "9" is lifted from its position and laid flat on the bottom between the ends "6";

then the sides "3" are turned on their hinges and folded downward and inward over the ends and the partition, leaving a small space between them; then the top "10" is placed over the parts thus folded, the side and end bars "11" and "12" thereof fitting around the folded parts and protecting them from injury and holding all parts firmly together, the cleats "18", above mentioned, being centrally located on the lower side of the top "10", will fit in the space between the sides "3" thus the top "10" fits closely down on the parts which are folded; then the locks are again turned into their locking position and the locking arms brought under the plates "16" so that the top is locked directly to the bottom and clamps the folded parts between it and the bottom.

I have illustrated my crate as formed with a solid bottom and with barred sides and top, and this is the form which would be used when my crate is used for the exhibition or shipping of live poultry, but it is evident that the bars of the sides and top may be replaced by solid sides or panels, or glass sides or panels, and that in so changing the construction I do not depart in any way from the invention.

Having now described my invention, what I claim is:

1. In a folding crate the combination with a base having ends folding flat thereon and side bars secured thereto and extending higher than said folded down ends; of U-bolts extending through said side bars and said bottom; side panels mounted over said side bars; and straps secured to said side panels and engaging said U-bolts to form hinges therewith.
2. In a folding crate, the combination of a bottom formed of wooden pieces lying across the crate, side bars to which said wooden pieces are secured at their ends, hinge bars extending across said crate from the ends of said side bars, end panels hinged to said hinge bars, U-bolts extending through said side bars and said bottom, side panels hinged to said U-bolts, a detached top fitting over and around said hinged ends and sides, and a locking link mounted on said top and engaging said end panels when the crate is unfolded and engaging the bottom when the crate is folded.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR W. COATS.

Witnesses:

M. H. COREY,
M. A. VAN HOUSE.